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(71) Applicant: FUJITSU LIMITED  
Kawasaki-shi, Kanagawa 211-8588 (JP)

(72) Inventors:  
◦ Kohda, Youji,  
c/o Fujitsu Limited  
Kawasaki-shi, Kanagawa 211-8588 (JP)  
◦ Sugano, Hiroyasu,  
c/o Fujitsu Limited  
Kawasaki-shi, Kanagawa 211-8588 (JP)  
◦ Mitsuoka, Madoka,  
c/o Fujitsu Limited  
Kawasaki-shi, Kanagawa 211-8588 (JP)

◦ Otani, Koji,  
c/o Fujitsu Limited  
Kawasaki-shi, Kanagawa 211-8588 (JP)  
◦ Ono, Takashi,  
c/o Fujitsu Limited  
Kawasaki-shi, Kanagawa 211-8588 (JP)  
◦ Kawaguchi, Naohisa,  
c/o Fujitsu Limited  
Kawasaki-shi, Kanagawa 211-8588 (JP)  
◦ Iwakawa, Akinori,  
c/o Fujitsu Limited  
Kawasaki-shi, Kanagawa 211-8588 (JP)

(74) Representative:  
Hitching, Peter Matthew et al  
Haseltine Lake & Co.,  
Imperial House,  
15-19 Kingsway  
London WC2B 6UD (GB)

(54) Method for tailoring services and service-tailoring devices

(57) In a service-tailoring system, user status is collected by status notification devices 6, 9, and the timing to provide certain services to the user is determined based on the collected user status. For example, if status notification device 9 is connected to network 4, timing determination module 73 judges that the user can use the service by service utilization device 8. In accordance with that judgment, service-tailoring mod-

ule 74 tailors the service content and sends it to service provision device 5. The service is performed based on the user information stored in personal information database 71.

With such a system, services and advertising are provided to a user more effectively.

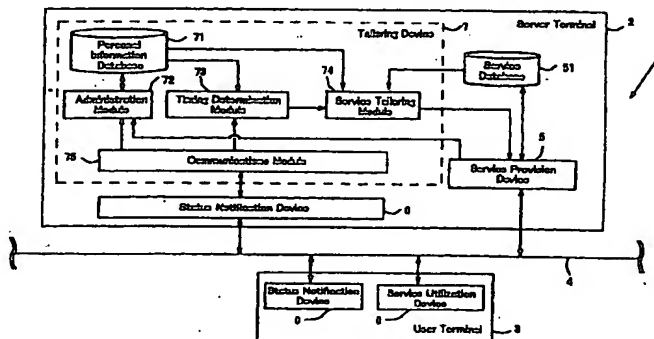


FIG. 1

EP 1 065 614 A2

## Description

[0001] The present invention relates to a technology for effectively providing services via a network to users on the network.

[0002] In the following description, status notification devices are devices that can store user status, and can send to and receive from one another user status in real time via a network. The user status may be set by the user using an input means, or may be automatically detected. ICQ, for example, which can send and receive user status on the Internet, can be cited as an example of a status notification device.

[0003] ICQ is a device for intercommunication via the Internet, and for exchange-reporting self-status. ICQ receives local user-set status for reporting to other users. In addition, ICQ acquires the Internet connection status of other users.

[0004] The provision and advertising of services on networks like the Internet is becoming commonplace these days. For example, in consulting Web pages, advertising commonly is found inserted in addition to the information originally sought. The point of difference from conventional advertising that uses television and newspapers is that advertising on a Web page has interactive characteristics. For example, if a user clicks an advertising part with a mouse, detailed service content is displayed. On the other hand, common to conventional advertising and Web page advertising is that both passively expect numerous consumers will view the advertisements and take an interest in the advertised products.

[0005] The provision and advertising of services specially tailored to Internet users' attributes and needs has recently drawn attention. The technique of providing and advertising services to accord with users is called customization or personalization, which has been practiced in the past. These techniques are important to the Internet, and can be implemented for numerous customers, without increasing costs, by the use of Internet technology. Customization and personalization on the Internet have been advocated by Don Peppers and Martha Rogers, and is generally referred to as "one-to-one marketing."

[0006] If the technique of one-to-one marketing is adopted, service content tailored to users is displayed even if different users consult a Web page with the same URL (uniform resource locator). Eventually, service content tailored to every user will be displayed on Web pages. Various methods have been considered as arrangements for tailoring services to users, such as rule-based methods, methods that employ a collaboration filter, and methods that employ neural networks. However, each of these methods has a passive characteristic, as in the Web page advertising discussed above, of waiting for a Web page to be browsed by someone.

[0007] On the other hand, a method has also been

considered that adds advertising to the information desired by a user and delivers it directly to the user. For example, one such method is an electronic mail magazine, which periodically delivers news to a user by electronic mail. In a mail magazine, information and advertising can also be tailored to users. However, the provision of information from the user is usually limited to the point in time when the user subscribes to the mail magazine. Consequently, it is difficult to tailor advertising and information to the details of the news, which varies with time. Furthermore, users do not necessarily read the contents of the mail magazine. Consequently, the service provider faces the problem of not knowing whether the user was actually informed of the existence of its services.

[0008] It is therefore desirable to provide a technology for apprehending customer status in fine detail and, based on customer status, to advertise and provide services effectively.

[0009] According to an embodiment of one aspect of the present invention there is provided a service tailoring method used in status notification devices that can report their self-status to one another via a network, comprising the steps of:

- A) storing predetermined information on users;
- B) collecting information on the users, and administering the stored user information based on the collected user information; and
- C) determining based on status reported from other status notification devices whether it is time to provide a service, and sending the determination results externally.

[0010] The user status can be inferred from the status of the status notification device. If it is judged from the user status that a user can use a service, the result of the judgement can be sent externally. The service provider can then provide service based on the results of the judgment, obtain verification of whether it is all right to provide the service, and the like.

[0011] According to an embodiment of another aspect of the present invention there is provided a service-tailoring system that includes status notification devices that can report their self-status to one another via a network, and a service-tailoring device that can operate together with the status notification devices.

[0012] The service-tailoring device is provided with storage means, management means, judgment means and output means. The storage means stores predetermined user information. The management means collects the user information, and updates the storage means based on the collected user information. The judgment means, based on the status notification from the other status notification device, judges whether it is time to provide the service. The output means, in accordance with the results of the judgment, performs output based on the user information stored in the stor-

age means and the service content that can be provided.

[0013] For example, consider a service that provides home delivery in accordance with the at-home status of the user. A service-tailoring device and a status notification device can be provided on an information terminal of the home delivery carrier. A status notification device can be provided on the information terminal of the user. The status notification device can report the status of the user, such as "Connected" and "Not home." In addition, the storage means of the service-tailoring device can store predetermined user information, such as the name, address and telephone number. In addition, user information entered by the home delivery carrier, such as the number of the package for the user and the delivery status (delivered/undelivered) of the package, can also be stored. The management means can collect and update user information by some means other than the status notification device.

[0014] The judgment means judges, for example based on whether the status notification device on the user terminal is in a communication-capable state, whether it is time to provide a service. For example, it judges whether the user is at home. The judgment means can also perform this judgment based on status notifications from a plurality of status notification means. If the user is at home, the output means can notify the home delivery carrier that the user is at home, in addition to the package numbers of undelivered packages, the user telephone number, and the like. For example, the output means could display on the display of the information terminal a message like "Package #1 for Taro Fujitsu can be delivered. The telephone number is 01-234-5678." Based on this message, the home delivery carrier can make a telephone call to verify whether it is alright to make a delivery now. The output means can also automatically dial up the user.

[0015] A service-tailoring system embodying the invention is preferably further provided with a receiving device operable together with the status notification devices.

[0016] The receiving device can receive messages from a service-tailoring device via the status notification device, and can accept instructions with respect to the message and can send the instructions to the service-tailoring device. In addition, in this system, the service-tailoring device further has a messaging means that, between the receiving devices, sends predetermined messages and receives responses to the messages.

[0017] Using the example above, the receiving device sends a message like "Is it all right to deliver a package now?" to Taro Fujitsu via the status notification device. In addition, the receiving device receives the input of the response to this message and sends it to the service-tailoring device via the status notification device.

[0018] The service-tailoring device creates this

message by the messaging means, sends it and then stands by for a response. In accordance with the response, the output means, for example, displays "The first package can be delivered to Taro Fujitsu. The telephone number is 01-234-5678."

[0019] A service-tailoring system embodying the present invention is preferably further provided with an tailoring means that, in accordance with the judgment results of the judgment means, tailors and externally outputs the service content to be provided based on user information stored in the storage means and on the service content that can be provided.

[0020] Consider the example of a case wherein information is published on a Web page in accordance with the user. The tailoring means, based on the user information and the publishable information, tailors the information to be published for each user. In addition, the tailoring means sends to the Web page the adjusted information to be published.

[0021] According to an embodiment of another aspect of the present invention there is provided a service-tailoring device that can operate together with status notification devices that can report their self-status to one another via a network, provided with a storage means, management means, judgment means, and output means.

[0022] The storage means stores predetermined user information. The management means collects the user information, and updates the storage means based on the collected user information. The judgment means, based on a status notification from another status notification device, judges whether to provide the service. The output means, in accordance with the results of the judgment, performs output based on the user information stored in the storage means and on the service content that can be provided.

[0023] Effects likewise as with the service-tailoring device in the foregoing aspects can be obtained.

[0024] According to an embodiment of another aspect of the present invention there is provided a receiving device, capable of operating together with status notification devices that can report their self-status to one another via a network; and capable of receiving an external message via the status notification devices, and accepting and sending externally an instruction with respect to the message.

[0025] Effects likewise as with the service-tailoring device in the foregoing aspects can be obtained.

[0026] According to an embodiment of another aspect of the present invention there is provided a computer readable medium whereon is recorded a service-tailoring program used in information terminals that can run status notification devices that can communicate their self-status to one another via a network. The program is recorded for executing the following:

A) a step of storing predetermined information on users;

B) a step of collecting information on the users, and administrating the stored user information based on the collected user information;

C) determining based on status reported from other status notification devices whether it is time to provide a service, and sending the determination results externally; and

D) a step for executing output in accordance with the results of the decision, based on the user information stored in said storage means and providable service content.

[0027] Effects similar to those of the service-tailoring device in the above-described aspects of the invention can be obtained.

[0028] According to an embodiment of another aspect of the present invention there is provided a computer readable storage medium whereon is recorded a receiving program used in information terminals whereon status notification devices that can report their self-status to one another via a network. The receiving program is recorded for executing the following:

A) a step of receiving external messages via the status notification devices;

B) a step of accepting instructions with regard to the messages; and

C) a step of sending the instructions externally via the status notification device.

[0029] Effects similar to those of the receiving device in the foregoing aspects of the invention can be obtained.

[0030] Reference will now be made, by way of example, to the accompanying drawings, in which:

Fig. 1 is an overall block diagram of the service-tailoring system according to the first embodiment;

Fig. 2 is a conceptual explanatory diagram of the personal information database (first embodiment);

Fig. 3 is a flowchart illustrating flow of processes performed by the tailoring device according to the first embodiment;

Fig. 4 is an overall block diagram of a service-tailoring system according to the second embodiment;

Fig. 5 is a conceptual explanatory diagram of a personal information database (second embodiment);

Fig. 6 is a flowchart illustrating flow of processes performed by the tailoring device according to the second embodiment; and

Fig. 7 is a flowchart illustrating flow of processes performed by a receiving device according to the second embodiment.

[0031] The following description explains in detail service-tailoring systems embodying the present inven-

tion, referencing the drawings.

## First Embodiment

### *Overall Configuration*

[0032] Fig. 1 is an overall block diagram of the service-tailoring system according to the first embodiment. Service-tailoring system 1 is constituted by connecting server terminal 2 and user terminal 3 via network 4. To facilitate the explanation, the present embodiment takes up the example of a service that distributes news to users in the form of electronic mail.

[0033] Server terminal 2 is provided with a commonly used service provision device 5, status notification device 6, and tailoring device 7. An electronic mail distribution device for distributing news in the form of electronic mail can be used as service provision device 5. The service resources that can be provided are stored in service database 51. For example, the sports news and weather report and the like are stored in the service database for each day. Service provision device 5 collects news by whatever method, stores it in service database 51 and distributes it using an electronic mail device. Tailoring device 7 is discussed below.

[0034] User terminal 3 is provided with a commonly used service utilization device 8 and status notification device 9. Service utilization device 8 is an device for using services provided from service provision device 5. An electronic mail device for receiving news distributed in the form of electronic mail can be used as service utilization device 8. In addition, service utilization device 8 may also be capable of reporting to service provision device 5 whether the news was read. For example, if a news file has been opened, service utilization device 8 sends to service provision device 5 a has-been-read notification that reports that the news has been read. If there is no function in service utilization device 8 to report whether the news has been read, the fact that the news has been sent is taken as it having been read.

[0035] Furthermore, status notification device 9 of user terminal 3 can report the user status to status notification device 6 of server terminal 2. In addition, status notification device 9 can at least report, as the user status, whether communication via network 4 is possible. The explanation of the present embodiment assumes the use of ICQs as status notification devices 6, 9.

### *Tailoring Device*

[0036] Server terminal 2 has tailoring device 7. Tailoring device 7 has personal information database 71, administration module 72, timing determination module 73, service-tailoring module 74 and communications module 75. In addition, tailoring device 7 shares service database 51 with service provision device 5.

[0037] Service database 51 stores services that can be provided by service provision device 5. Specifi-

cally, it stores for each day various types of news, such as the sports news, weather report, computer news and overseas news.

[0038] Personal information database 71 stores personal information for each user. Personal information includes user-specific information (hereinafter called personal data) and service-related user status (hereinafter called status information). Fig. 2 shows a conceptual explanatory diagram of personal information database 71. Fig. 2 shows the personal information related to User A. The name, age, address, telephone number and electronic mail address are stored as the personal data. Personal data is information specified by the user him/herself. Personal data may be acquired from service provision device 5, may be acquired from user terminal 3, or may be acquired in advance by some other means. The personal data and status information vary by the service to be provided and by the user status that can be collected.

[0039] The news distributed to User A is stored each day as the status information. In addition, a flag that indicates whether the distributed news has been read is stored together with the distributed news. In the drawing, a flag of "0" indicates news that has not yet been read. A flag of "1" indicates news that has already been read. Whether User A has read the news can be learned from service provision device 5, for example. The personal data and status information are suitably set depending on how the timing and content of the service to be provided are adjusted.

[0040] Administration module 72 acquires the personal information and writes it in personal information database 71. If the personal data is sent from the user terminal, administration module 72 acquires the personal data from the user terminal via communications module 75 and status notification device 6. In addition, administration module 72 acquires from service provision device 5 the service utilization result of the user, and writes it in personal information database 71 as status information. The service utilization result in the present embodiment is a has-been-read notification that reports what news was distributed to the user and the fact that the distributed news has been read.

[0041] Timing determination module 73 judges whether status notification device 9 on user terminal 3 is connected to network 4 via communications module 75. If status notification device 9 is connected to network 4, timing determination module 73 judges that the user is able to use the service.

[0042] Service-tailoring module 74 tailors, in accordance with the judgment of timing determination module 73, the content of the service to be provided to the user. Service-tailoring module 74 sends the content of the adjusted service to service provision device 5. The tailoring of the service content is performed based on the personal information and on the service resources stored in service database 51. Consider the example of the case wherein the status information is as

shown in Fig. 2. In Fig. 2, User A reads the sports news every day from June 10 to June 14, but does not subsequently read the news from June 15 to June 20. When providing service on June 21, service-tailoring module 74 acquires from the service database the sports news that has not been read. Subsequently, service-tailoring module 74 creates a summary of the sports news that has not been read. This summary is sent to service provision device 5 as the service content.

[0043] Communications module 75 monitors by status notification device 6 whether status notification device 9 on a predetermined user terminal is connected to network 4, and reports the monitoring results to timing determination module 73. User terminals whose connection status is monitored by communications module 75 are, for example, terminals of users that have concluded a contract to use the service. Communications module 75 acquires in advance from service provision device 5 the identification information that specifies the relevant user terminal. In addition, if personal data is sent from a user terminal, communications module 75 reports the received data to administration module 72.

#### Process Flow

[0044] Fig. 3 is a flowchart showing the flow of processing performed by tailoring device 7. The following processing starts by, for example, the activation of status notification device 6.

[0045] In step S1, timing determination module 73 judges whether a predetermined user terminal can communicate by status notification device 9. Specifically, timing determination module 73 judges whether status notification device 9 on the user terminal is connected to the network. If the determination is "No," the process flow goes to step S2. If the determination is "Yes," the process flow goes to step S3.

[0046] In step S2, timing determination module 73 stands by for the elapse of a predetermined time. If the predetermined time elapses, processing returns once again to step S1, wherein the determination is repeated.

[0047] In step S3, service-tailoring module 74 reads from personal information database 71 predetermined personal information for the relevant user. The read personal information varies by the service to be provided. In the present embodiment, unread news is read. In addition, service-tailoring module 74 consults the service database based on the fetched personal information, and reads the required service resource. In the case of the personal information shown in Fig. 2, for example, the required service resource is the sports news content not yet read by the user.

[0048] In step S4, service-tailoring module 74 tailors the read service resource based on the status information, and determines the service content to be provided. For example, service-tailoring module 74 creates a summary of the past sports news that has not been read, and sets it as the service content together

with the sports news of the day.

[0049] In step S5, service-tailoring module 74 sends the adjusted service content to service provision device 5. Service provision device 5 provides the received service content to service utilization device 8 by an ordinary method. For example, service utilization device 8 distributes to a user by an electronic mail device an electronic mail wherein is recorded a summary of the sports news and the latest sports news.

[0050] step S6 judges whether status notification device 6 is done. If the determination is "No," processing returns to step S1 where the processing discussed above is repeated. If the determination is "Yes," the process ends.

[0051] Furthermore, in addition to the processes discussed above, tailoring device 7 may also perform a routine that monitors the connection status of a predetermined information terminal, by communications module 75 at every of predetermined time intervals, and reports it to timing determination module 73.

[0052] Furthermore, in addition to the processes discussed above, administration module 72 of tailoring device 7 performs a process that acquires predetermined status information from service provision device 5 and then updates personal information database 71. Status information is what news was distributed to the user terminal and the has-been-read notification from the user terminal.

#### Second Embodiment

[0053] Fig. 4 is an overall block diagram of service-tailoring system 21 according to the second embodiment. Connecting server terminal 22, user terminal 23 and information terminal 30 via network 24 constitutes service-tailoring system 21 according to the present embodiment. Information terminal 30 is connected to network 24, but is not particularly limited thereto as long as it can operate a status notification device. To facilitate the explanation, the present embodiment considers a case wherein the information terminal is an electrical product that can connect to network 24, e.g., a refrigerator. The explanation now takes up the example of a service that reports bargain foodstuffs based on the inventory status of the refrigerators on the network.

#### Information Terminal

[0054] Information terminal 30 is connected to network 24 via status notification device 310. In addition to status notification device 310, information terminal 30 also has generating device 320. Information terminal 30 monitors for a predetermined change in status by generating device 320, and reports same to server terminal 22 via status notification device 310. In the present example, generating device 320 detects the input and output of foodstuffs to and from the refrigerator. A bar code reader that reads bar codes affixed to the food-

stuffs can be cited as a concrete example of generating device 320. In addition, as long as generating device 320 can detect the status in accordance with the service to be provided, the various detection devices commonly used can be appropriately employed. For example, the detection of the open/close state of the door of the refrigerator by generating device 320 can form the basis for judging whether the user is at home.

#### Server Terminal

[0055] Server terminal 22 is provided with service provision device 25, status notification device 26 and tailoring device 27. Service provision device 25 and status notification device 26 are the same as in the first embodiment.

[0056] Tailoring device 27 has personal information database 271, administration module 272, timing determination module 273, service-tailoring module 274 and communications module 275, as well as messaging part 276.

[0057] Personal information database 271 stores the personal data and status information discussed above. Fig. 5 shows a conceptual explanatory diagram of the personal information related to User A. In the present embodiment, the personal data is the same as in the first embodiment. However, the status information is stored along with the purchase day and date of the foodstuffs in the refrigerator of the user.

[0058] Administration module 272 receives changes in the inventory status from information terminal 30 via status notification device 26 and communications module 275, and stores these as status information. In addition, administration module 272 acquires the personal data by some means, and stores it in the personal database. Personal data may be acquired from service provision device 25, as discussed above, or may be acquired from user terminal 23. In addition, it may also be acquired by other methods.

[0059] Timing determination module 273 judges whether to provide service to the user. This judgment is made based on the connection status of status notification device 29 of the user terminal. Specifically, timing determination module 273 acquires the connection status of status notification device 29 on the user terminal via status notification device 26. If status notification device 29 is connected to Internet 24, timing determination module 273 makes the determination to provide service. Timing determination module 273 reports the determination and the target user to service-tailoring module 274.

[0060] Furthermore, timing determination module 273 can also make this judgment based on the status notifications from a plurality of status notification devices. For example, if the status notification on a user terminal is "Connected" and the door of information terminal 30 (refrigerator) has opened within the last ten minutes, timing determination module 73 makes the

determination to provide the service. To make this judgment, a function to detect the opening and closing of the door must be provided beforehand in generating device 320 of information terminal 30.

[0061] Service-tailoring module 274 tailors, in accordance with the notification from timing determination module 273, the content of the message reported to the user. This tailoring is made based on personal information database 271 and the service database. In addition, service-tailoring module 274 instructs messaging part 276 to send a predetermined confirmation message. In accordance with the user response to the confirmation message, the service-tailoring module sends an adjusted message to service provision device 25. The confirmation message is discussed below.

[0062] Specifically, Service-tailoring module 274 tailors the information reported to the user based on the inventory status of the user and the bargain foodstuffs for the date and time at which the service is to be provided. For example, consider the case wherein the bargain foodstuffs on June 12 are milk, eggs and thin-sliced beef. It can be seen from the inventory status of User A shown in Fig. 5 that there are no eggs. Accordingly, service-tailoring module 274 makes the determination to set the message content to "Today, eggs are 150 yen per pack." Furthermore, if status notification device 26 can send and receive character messages, the message can also be sent to user terminal 23 via status notification device 26.

[0063] Messaging part 276 sends to the user terminal a predetermined confirmation message in accordance with an instruction from service-tailoring module 274. The confirmation message may be sent via status notification device 26. For example, messaging part 276 sends a confirmation like "Would you like to know about today's bargain foods?" This is for confirming the preference of the user before providing the service.

[0064] Communications module 275 collects the inventory status from information terminal 30 via status notification device 26, and reports it to administration module 272. In addition, communications module 275 acquires via status notification device 26 the connection status of status notification device 29 on the user terminal, and reports it to timing determination module 273. Furthermore, communications module 275 acquires via status notification device 26 the response from the user terminal to the confirmation message, and reports it to service-tailoring module 274.

[0065] Conversely, communications module 275 sends via status notification device 26 to a predetermined user terminal the confirmation message from messaging part 276. In addition, if service-tailoring module 274 sends the adjusted message via messaging part 276, communications module 275 receives the message from service-tailoring module 274 and sends it to the user terminal via status notification device 26.

#### *User Terminal*

[0066] The user terminal has receiving device 31 in addition to service utilization device 28 and status notification device 29. Furthermore, if the message created by the service-tailoring device is reported via status notification device 29, the service utilization device is status notification device 29.

[0067] Receiving device 31 has communications module 311 and request part 312.

[0068] Communications module 311 acquires from status notification device 29 the confirmation message from messaging part 276, and sends it to request part 312.

[0069] Request part 312 reports to the user the confirmation message received via communications module 311. For example, request part 312 displays a window with the received confirmation message on the display. In addition, request part 312 receives the input of the response to the confirmation message from the user. The inputted response is sent to server terminal 22 via communications module 311 and status notification device 29. If status notification device 29 is an application separate from service utilization device 28, request part 312 may activate service utilization device 28 in accordance with the inputted response.

#### *Process Flow*

##### *(1) Flow of Processes Performed by Tailoring Device*

[0070] Fig. 6 is a flowchart showing the flow of processing performed by tailoring device 27 in the second embodiment. For example, the processing below starts by the activation of status notification device 26.

[0071] First, in step S11, timing determination module 273 judges whether to provide service to the user. This judgment is made based on whether status notification device 29 on the user terminal is connected to Internet 24. If the determination is "Yes," the process flow goes to step S13, discussed below. If it judges "No," the process flow goes to step S12. Furthermore, this judgment can also be made by combining the connection status of status notification device 29 and the status of information terminal 30. For example, the judgment is made in combination with whether the door has opened or closed within the past ten minutes. This judgment can be fine tuned as needed by basing the judgment on the status of a plurality of status notification devices, and the status reported from the generating device via the status notification device.

[0072] In step S12, timing determination module 273 stands by for the elapse of a predetermined time, and the process flow returns once again to step S11 wherein the determination is repeated.

[0073] In step S13, service-tailoring module 274 references personal information database 271 and service database 251. Specifically, service-tailoring



module 274 acquires from personal information database 271 the status information, namely the inventory status of the user's refrigerator. In addition, service-tailoring module 274 acquires from the service database the service resources that can be provided. A providable service resource is, for example, the bargain product of the day or a service product offered for a limited time.

[0074] In step S14, service-tailoring module 274 determines the service content suited to the user based on the inventory status of the user and the service resources that can be provided. For example, if a foodstuff that is not in the user inventory is a bargain product of that day, a message recommending that product is created. In addition, for example, if a foodstuff that a user likes can be inferred from the past inventory status of that user, a message may also be created that prompts the purchase of that foodstuff.

[0075] In step S15, messaging part 276 creates, based on an instruction from service-tailoring module 274, a confirmation message that confirms whether it is all right to provide the service. Messaging part 276 sends to the user terminal the confirmation message via communications module 275 and status notification device 26.

[0076] In step S16, service-tailoring module 274 judges, in accordance with the confirmation message, whether a request for service has been received. If the determination is "Yes," the process flow goes to step S17. If the determination is "No," the process flow goes to step S18, discussed below.

[0077] In step S17, service-tailoring module 274 sends the created message to service provision device 25. Service provision device 25 provides the created message by a predetermined method. For example, the message is published on a predetermined Web page, sent in the form of electronic mail, or reported by voice via a telephone call.

[0078] In step S18, the service-tailoring module stands by for the elapse of a predetermined time, and the process flow goes to step S19 if the predetermined time elapses. Until the predetermined time elapses, the processing returns to step S17 where the judgment discussed above is repeated.

[0079] In step S19, the service-tailoring module stops the provision of service. The service-tailoring module preferably instructs messaging part 276 to report that the provision of service has been stopped. Messaging part 276, which has received this instruction, reports to the user terminal via status notification device 26 a cancellation notification like, for example, "Reporting of the service will now be stopped."

[0080] Step S20 determines whether status notification device 26 is done. If the determination is "No," processing returns to step S11 where the processing discussed above is repeated. If the determination is "Yes," the process ends.

## (2) Flow of Processes Performed by Receiving Device

[0081] Fig. 7 is a flowchart showing the flow of processing performed by the receiving device. For example, the processing below starts with the activation of status notification device 29.

[0082] In step S31, communications module 311 judges whether it is possible to communicate with status notification device 26 on the server terminal. Specifically, communications module 311 judges whether status notification device 29 is connected to network 24. If the determination is "Yes," the process flow goes to step S32. If the determination is "No," it stands by until communication becomes possible.

[0083] In step S32, request part 312 judges whether a confirmation message has been received from server terminal 22. If the determination is "Yes," the process flow goes to step S33. If the determination is "No," processing returns to step S31, where the processing discussed above is repeated.

[0084] In step S33, request part 312 displays the confirmation message from server terminal 22, and receives the input of the response from the user.

[0085] In step S34, request part 312 judges whether an instruction from the user has been input. If the determination is "Yes," the process flow goes to step S36. If the determination is "No," the process flow goes to step S35.

[0086] In step S35, request part 312 judges whether the predetermined time has elapsed. If the determination is "No," processing returns to step S34, where the processing discussed above is repeated. If the determination is "Yes," the process flow goes to step S37, discussed below.

[0087] In step S36, request part 312 sends to the server terminal via status notification device 29 the inputted user instruction.

[0088] In step S37, request part 312 judges whether the inputted instruction is a service request. If it is a service request, the process flow goes to step S38. If it is not a service request, the process flow goes to step S39, discussed below.

[0089] In step S38, request part 312 activates service utilization device 28. For example, if a service is provided in the form that publishes a message on a Web page, request part 312 activates a Web browser on user terminal 23. However, if service utilization device 28 is already activated, this processing can be omitted. In addition, if receiving device 31 and service utilization device 28 do not exist on user terminal 23, this processing is not performed. For example, the case can be cited in which service utilization device 28 is a telephone set independent of user terminal 23.

[0090] In step S39, request part 312 judges whether a service cancellation notification has been received from server terminal 22. If the determination is "Yes," the process flow goes to step S40. If the determination is "No," it stands by until one is received.



[0091] In step S40, request part 312 reports the cancel notification to the user by displaying it on a display and the like. Request part 312 clears the display if the user pushes the OK button, for example.

[0092] Step S41 determines whether status notification device 29 is done. If the determination is "No," processing returns to step S31, where the processing discussed above is repeated. If the determination is "Yes," the process ends. service of confirming by telephone, prior to making a delivery, whether it is alright to make the delivery.

[0093] The server terminal and user terminal have a constitution (not shown) the same as that of the first embodiment. However, this case differs from the first embodiment in that the service provision device and service utilization device are telephone sets independent of the server terminal and user terminal. In addition, it also differs from the first embodiment in that a service database is not provided.

[0094] The user name, telephone number, address and the like, the same as discussed above, are registered in the personal information database of the server terminal. In addition, identification information of the package that specifies the package scheduled to be delivered to the user may also be stored by whatever method. For example, if there is a system for managing packages for home delivery, it is conceivably possible to acquire information related to the package from this system.

[0095] The timing determination module judges whether the user is at home based on the status of the status notification device of the user terminal. If the user is at home and the timing determination module makes the judgment to place a telephone call, it reports predetermined information like the username and telephone number to the service-tailoring module.

[0096] The service-tailoring module automatically displays a message on the display and the like in accordance with the notification from the timing determination module. For example, it displays a message like "Package #1 can be delivered to Taro Fujitsu. The telephone number is 012-345-6789." The home delivery carrier, in accordance with this message, can make a telephone call to the user to confirm whether it is alright to make a delivery at this time. In addition, it is also conceivable to send the above discussed confirmation message prior to this phone call, or in place of this phone call.

[0097] Furthermore, if a voice communication function is provided in the server terminal, it is also possible to automatically dial the number for the confirmation telephone call.

[0098] An embodiment of the present invention can enable the dynamic and efficient provision and advertising of services in accordance with the real-time status of users.

[0099] While only selected embodiments have been chosen to illustrate the present invention, to those

skilled in the art it will be apparent from this disclosure that various changes and modifications can be made herein without departing from the scope of the invention as defined in the appended claims. Furthermore, the foregoing description of the embodiments according to the present invention is provided for illustration only, and not for the purpose of limiting the invention as defined by the appended claims and their equivalents.

[0100] Although the above description has referred to a program stored on a computer-readable medium, it will be appreciated that a program embodying the present invention need not be stored on a computer-readable medium and could, for example, be embodied in a signal such as a downloadable data signal provided from an Internet website. The appended claims are to be interpreted as covering a program by itself, or as a record on a carrier, or as a signal, or in any other form.

## Claims

1. A service-tailoring method employed together with a status notification device for exchange-reporting self-status via a network, comprising:

storing predetermined information on users;  
collecting information on the users, and administering the stored user information based on the collected user information; and  
determining based on status reported from other status notification devices whether it is time to provide a service, and sending the determination results externally.

2. A service-tailoring system including status notification devices for exchange-reporting self-status via a network, and a service-tailoring device enabled for operation together with the status notification devices, the service-tailoring system comprising:

storage means for storing predetermined information on users;  
administering means for collecting information the users, and updating the storage means based on the collected user information;  
decision means for judging based on status reports from other status notification devices whether it is time to provide a service; and  
output means for executing output in accordance with the results of the decision, based on the user information stored in said storage means and providable service content.

3. The service-tailoring system set forth in claim 2, operable together with the status notification devices, further comprising:

a receiving device enabled for receiving messages from a service-tailoring device via the

status notification devices, and enabled for accepting and sending to the service-tailoring device instructions with regard to the message; wherein

the service-tailoring device further has a messaging means that, between said receiving devices, sends predetermined messages and receives responses to said messages.

4. The service-tailoring system set forth in claim 2, further comprising a tailoring means for, in accordance with judgment results from said decision means and based on user information stored in said storage means and on the providable service content, tailoring and externally outputting service content to be provided.

5. A service-tailoring device operable together with status notification devices for exchange-reporting self-status via a network, comprising:

storage means for storing predetermined information on users;  
administering means for collecting information the users, and updating the Storage means based on the collected user information;  
decision means for judging based on status reports from other status notification devices whether it is time to provide a service; and  
output means for executing output in accordance with the results of the decision, based on the user information stored in said storage means and providable service content.

6. A receiving device:

enabled for operating together with status notification devices for exchange-reporting self-status via a network; and  
enabled for receiving external messages via the status notification devices, and enabled for accepting and sending externally instructions with regard to the messages.

7. A computer-readable medium on which a service-tailoring program is recorded for use in information terminals wherein status notification devices for exchange-reporting self-status via a network are operable, the computer-readable medium on which a service-tailoring program is recorded being for executing:

A) a step of storing predetermined information on users;

B) a step of collecting information on the users, and administrating the stored user information based on the collected user information;

C) determining based on status reported from other status notification devices whether it is time to provide a service, and sending the determination results externally; and

D) a step for executing output in accordance with the results of the decision, based on the user information stored in said storage means and providable service content.

8. A computer-readable storage medium on which a receiving program is recorded for use in information terminals wherein status notification devices for exchange-reporting self-status via a network are operable, computer-readable storage medium on which a receiving program is recorded being for executing:

A) a step of receiving external messages via the status notification devices;

B) a step of accepting instructions with regard to the messages; and

C) a step of sending the instructions externally via the status notification device.

9. A service-tailoring program, for use in information terminals wherein status notification devices for exchange-reporting self-status via a network are operable, which, when run on such an information terminal, causes the information terminal to execute the following steps:

A) a step of storing predetermined information on users;

B) a step of collecting information on the users, and administrating the stored user information based on the collected user information;

C) determining based on status reported from other status notification devices whether it is time to provide a service, and sending the determination results externally; and

D) a step for executing output in accordance with the results of the decision, based on the user information stored in said storage means and providable service content.

10. A receiving program, for use in information terminals wherein status notification devices for exchange-reporting self-status via a network are operable, which, when run on such an information terminal, causes the information terminal to execute the following steps:

A) a step of receiving external messages via the status notification devices;

B) a step of accepting instructions with regard to the messages; and

C) a step of sending the instructions externally

via the status notification device.

**11.** A program as claimed in claim 9 or 10, carried on a carrier medium.

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**12.** A program as claimed in claim 11, wherein the carrier medium is a transmission medium.

**13.** A program as claimed in claim 11, wherein the carrier medium is a storage medium.

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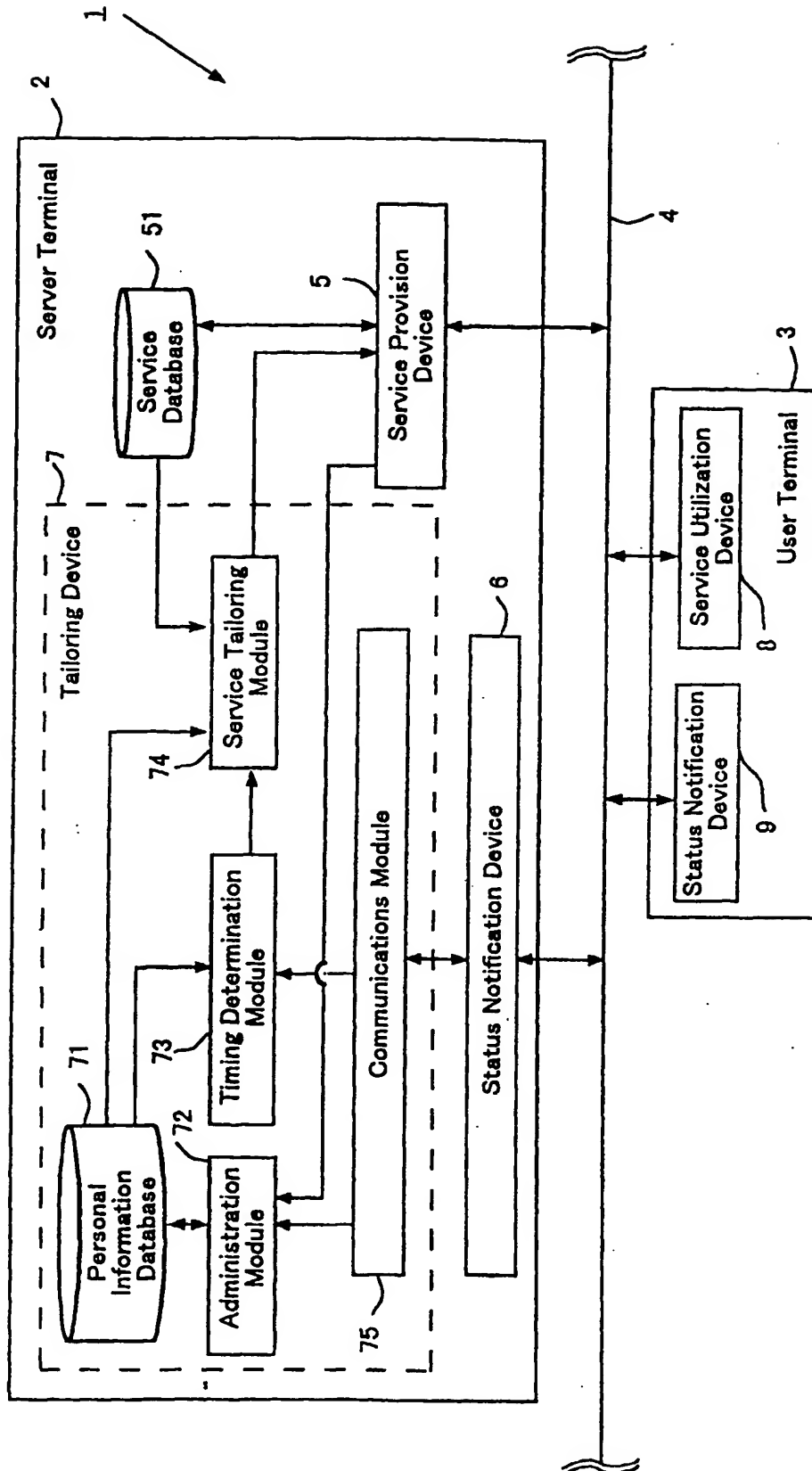


FIG. 1

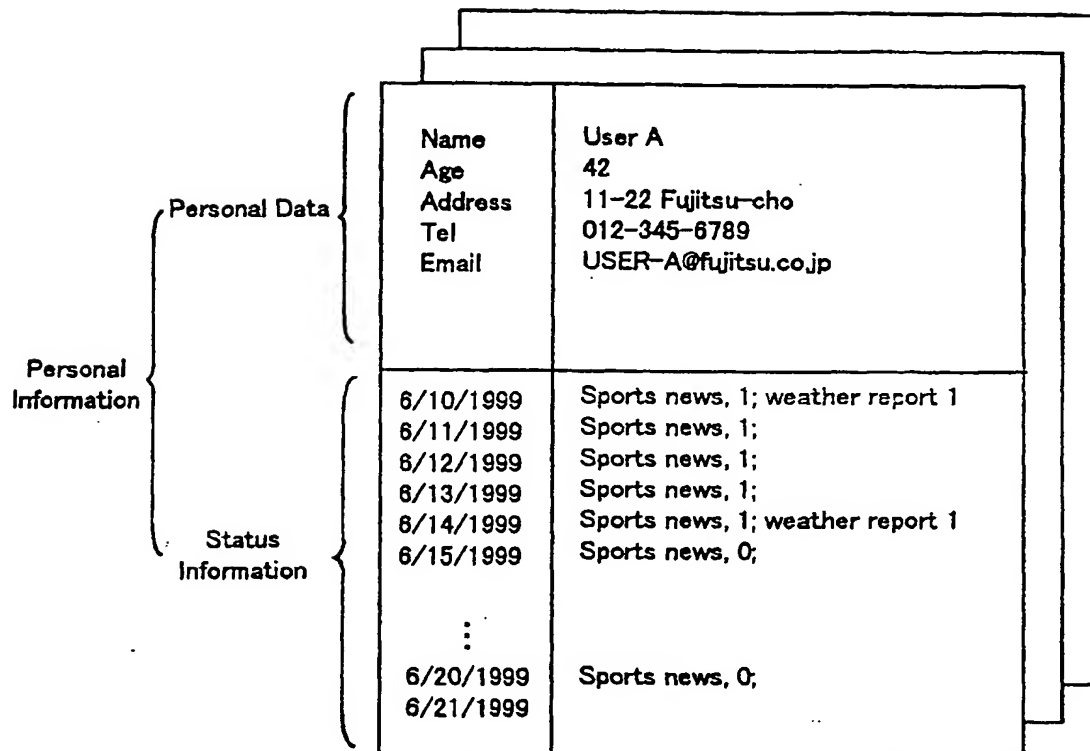


FIG. 2

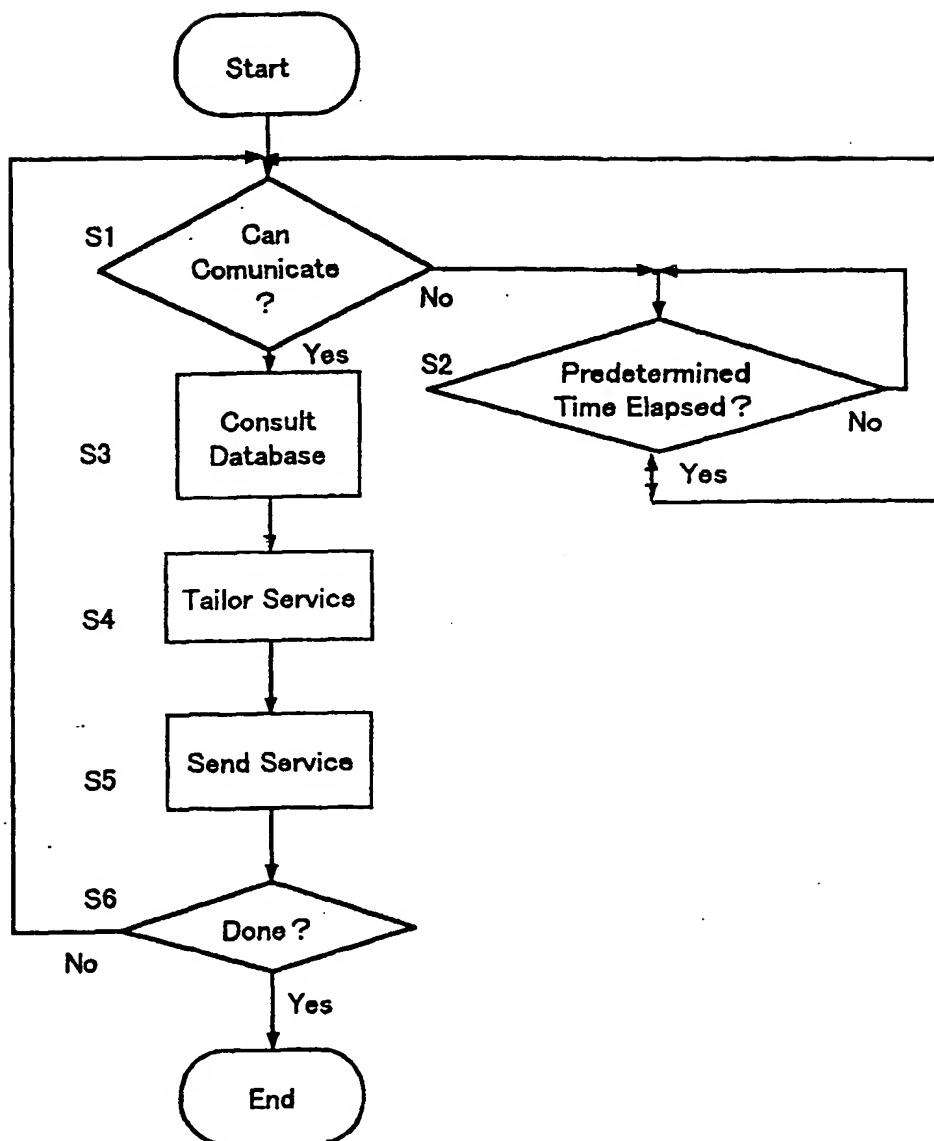


FIG. 3

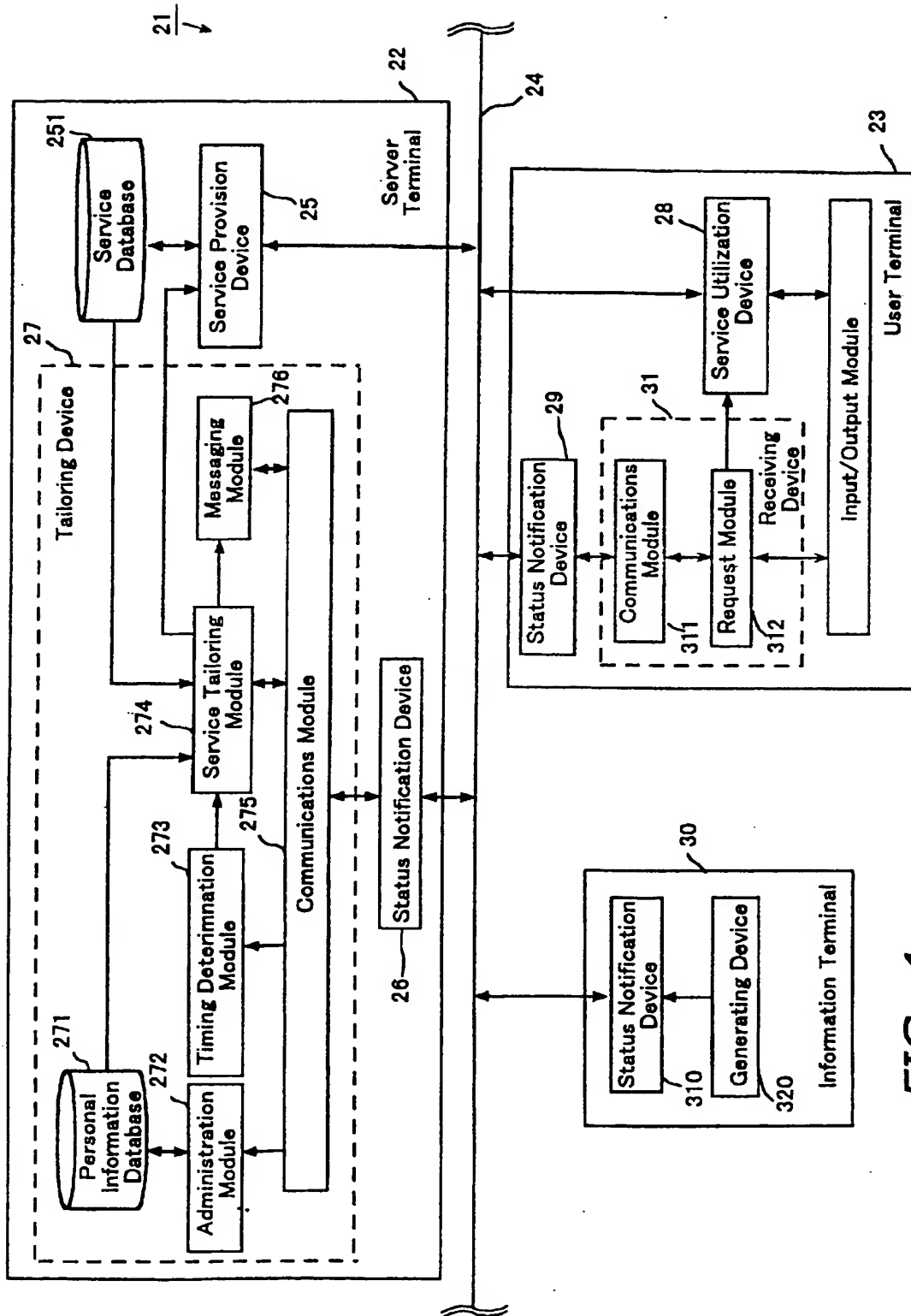


FIG. 4



The diagram illustrates a database table structure for 'Personal Information'. The table is divided into two main sections: 'Personal Data' and 'Status Information'. The 'Personal Data' section contains fields for Name, Age, Address, Tel, and Email. The 'Status Information' section contains a list of items with their respective dates and quantities. The table is shown as a stack of three pages, with the first page visible.

Personal Information	Personal Data	Name	User A		
		Age	42		
		Address	11-22 Fujitsu-cho		
		Tel	012-345-6789		
		Email	USER-A@fujitsu.co.jp		
	Status Information	6/9/1999	Milk	2	
		6/9/1999	Bread	1	
		6/12/1999	Thin-sliced beef	3	
		6/12/1999	Green peppers	2	
		:	:	:	

*FIG. 5*

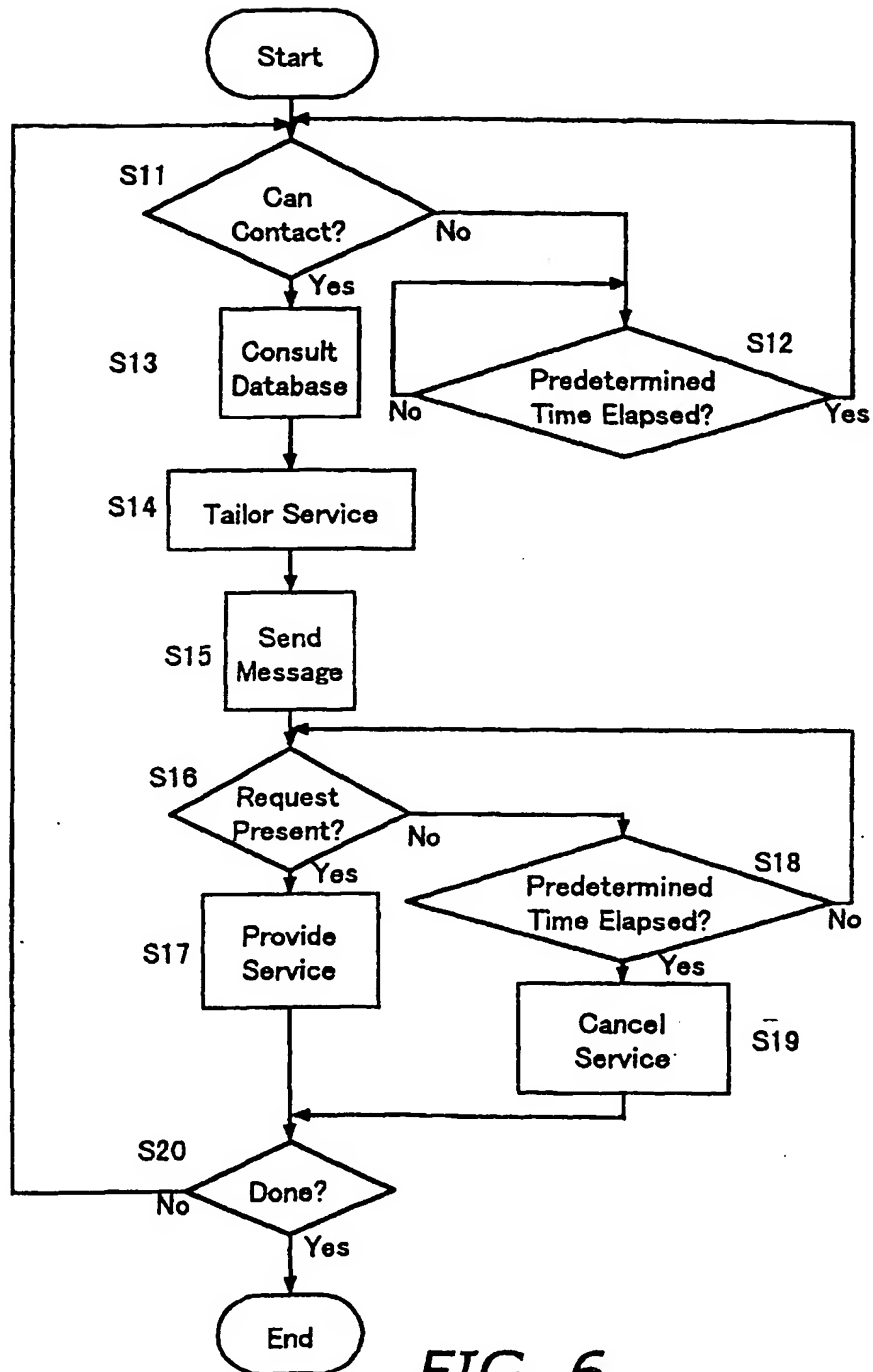


FIG. 6

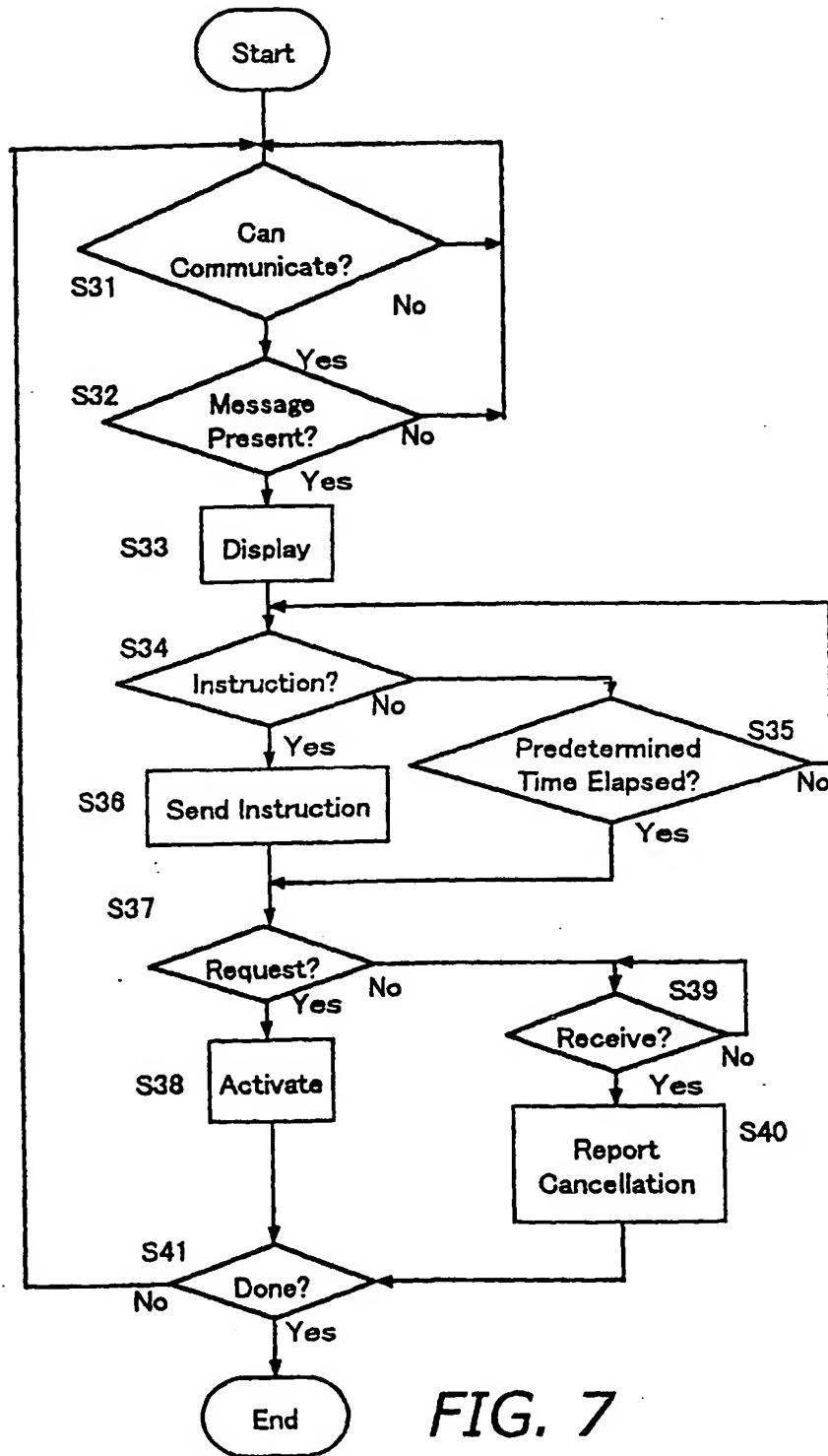


FIG. 7